Response to Reviewers " Nonexistence of unbiased test for high-dimensional linear model and a Bayesian-motivated test "

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We thank both reviewer for their helpful comments and critiques. We have carefully considered the comments and made corresponding changes to the paper. Our responds are as follows.

1 Response to reviewer 1

1. The manuscript should provide comparison with the literature that exploits sparsity because under the null hypothesis the model parameter is sparse (with at most q non-zero entries). For example, Zhang and Cheng (2017) studies the same problem of testing (high-dimensional components) of linear regressions. Apart from assuming random designs, this literature attempts to detect deviations in l_∞-norm, while the current manuscript seems to aim at detecting deviations in l_2-norm. In my opinion, more discussion on this literature would be helpful so that the reader would get a fair impression on what has been done and what assumptions different methods require. For example, here symmetry of error distribution is needed (Assumption 1), which is not usually required in the literature on high-dimensional inference.

Answer:

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2 Response to reviewer 2

3 List of major changes

References

Zhang, X. and Cheng, G. (2017). Simultaneous inference for high-dimensional linear models. *Journal of the American Statistical Association*, 112(518):757–768.